

Appl. No. 10/090,916
Amendment and/or Response
Reply to Office action of 7 April 2005

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Amendments to the Specification:

Please replace the eight paragraphs beginning at line 9 of page 2, and ending at the end of page 3, with the following rewritten eight corresponding paragraphs:

~~The improvement according to claim 2~~ In one or more possible embodiments of the invention, mounting the chip and a tuner on a common printed circuit board has the advantage that the connections between the chip and the tuner are as short as possible, which saves significant space on the TV chassis. Moreover, cheaper TV set manufacturing is possible because all assembling sensitive components are inside the interface module and do not need to be shielded separately, so that the TV chassis manufacturer does not need to use a complicated soldering process.

If the Printed Circuit Board (PCB) has, ~~according to claim 3~~ in one or more possible embodiments of the invention, some parts outside the casing which are not covered by the casing, then it is possible to provide connecting interfaces on the PCB or other peripheral components like a module for controlling LCD panels on the same PCB as the interface module with the chip and the tuner. If such a control circuit for LCD panels is provided, it is a simple task to build a LCD TV set. Then only the interface module and an LCD panel are needed and nothing else. That is an attractive solution for TV set makers.

~~According to claim 4~~ In one or more possible embodiments of the invention the resistance against electromagnetic influence from outside the casing is significantly improved by using a metallic casing. That makes additional shielding for the video processing means and the microprocessor superfluous.

~~With the improvement according to claim 5~~ In one or more possible embodiments of the invention, with the microprocessor in the chip and the tuner

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connected by a digital signal bus, the communication between the video processing means and microprocessor, on the one hand, and the tuner, on the other, could be much faster and more effective. That feature is also important for the possibility to shift functions from the tuner to the microprocessor part of the IC, which means that the tuner IC only requires a limited number of digital components to perform more complicated functions and tasks such as receiving signals of different TV systems.

~~According to claims 6 to 8~~ In one or more possible embodiments of the invention, the whole interface module can easily be updated by means of software stored in programmable memory of the microprocessor. Therefore the tuner is appropriate for different TV sets with different functions and can be configured very flexibly. In this way the tuner can perform more sophisticated functions such as picture-in-picture, multistandard reception. If used in cheaper and smaller TV sets, fewer functions are realized. However, in both cases the same interface module with a chip and a tuner can be used. This customizing is especially interesting for manufacturers developing TV sets in a wide range of sizes and prices. It is also possible that a TV set maker adds his own software for a special user interface such as a customized On-Screen-Display. This software is then stored in the one-time programmable memory part of the microprocessor. This is one possibility to initialize the interface module. Another advantage is that the TV set maker does not have to have knowledge about RF technique and EMC problems to design a TV set.

~~The~~ In one or more possible embodiments of the invention, an interface module with the integrated tuner and chip as ~~claimed in claims 9 to 11~~ offers additional possibilities to improve the performance of the signal processing. Deviations occurring during the manufacturing process can now be corrected by the interface module itself. The deviation is measured and then the deviation is stored in a correction table. The same can be done to the filters, especially the SAW (Surface Acoustic Wave) filters. It is then possible to measure the strength of the received signal and to adjust the filters and gain.

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In one or more possible embodiments of the invention, Since the interface module as claimed in claims 12 and 13 comprises an microprocessor, so a much cheaper solution than traditional concepts for antenna diversity, which requires more than one tuner or more than one antenna, is possible. The interface module is designed so that the tuner part of the module can have more than one antenna input, controlled by the microprocessor. This means that the tuner can switch between various TV signals or can switch from receiving TV signals to receiving FM radio signals. For antenna diversity the RSSI (Receiver Signal Strength Indicator) feature is very important. This feature can now be integrated in the interface module.

The interface module as claimed in claim 14 In one or more possible embodiments of the invention, having at least two tuners in the casing is particularly useful for automotive applications. Since more and more cars are equipped with LCD-Screens for car navigation, there is a wish to use the screens for television, too. But the conditions for receiving TV signals are quite bad in moving cars; therefore a technique called antenna diversity is often used.

Please replace the paragraph beginning at line 4 of page 6 with the following rewritten paragraph:

The interface module is also applicable to Car-TV, as now explained with reference to Fig. 4 for example. In this case the ability to receive several antenna signals 5a, 5b is particularly important, because antenna diversity is often used in Car-TV. Besides the LCD monitor 15 there is an interface for a navigation computer 16. An external input for S-VHS video signals 7e and the opportunity for voice control 19 are provided as well. Some functions of the tuner 1a are shifted to a special car AM/FM receiver 1b outside the module. In return, other functions such as the antenna diversity control unit 17 or a low-noise amplifier 18 is built in the casing 3. The software functions needed for voice control 19 are implemented by the microprocessor 4 of the chip 2. This means that further functions needed to integrate a cell phone into the arrangement can also be implemented by the chip 2.

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Please delete the Abstract of the invention in its entirety, and add the following new Abstract provided on the following separate sheet.